

AMENDMENTS TO THE CLAIMS

1. (**Currently Amended**) A method for producing isolated neural cells ~~having the ability to differentiate into three primary germ layers and also germ cells~~, wherein the method comprises carrying out a suspension culture of embryonic stem cells having the ability to differentiate into three primary germ layers and also germ cells, in the presence of an astrocyte conditioned medium or ingredients equivalent to the conditioned medium to directly produce said isolated neural cells.

2. (Previously Presented) The method for producing neural cells according to claim 1, wherein the embryonic stem cells are embryonic stem cells of a mammal.

3 (Previously Presented) The method for producing neural cells according to claim 2, wherein the mammal is selected from the group consisting of a mouse, a cynomolgus monkey, a human and a rat.

4. (Previously Presented) The method for producing neural cells according to claim 1, wherein the method comprises the step of:

(A) carrying out the suspension culture of embryonic stem cells in the presence of the astrocyte conditioned medium or ingredients equivalent to the conditioned medium, thereby forming a stem cell sphere (SCS).

5. (Previously Presented) The method for producing neural cells according to claim 4, comprising carrying out after the step (A), the step of:

(B) culturing the stem cell sphere (SCS) obtained in the step (A) in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of a cell adhesion molecule, thereby obtaining neural stem cells as cells migrated from SCS.

6. (Previously Presented) The method for producing neural cells according to claim 5, wherein the culture in the step (B) is carried out in the state of adhesion of the stem cell sphere (SCS) obtained in the step (A) to an adhesive culture substratum carrying a cell adhesion molecule.

7. (Previously Presented) The method for producing neural cells according to claim 1, comprising carrying out the step of:

(A') carrying out the suspension culture of embryonic stem cells in the presence of the astrocyte conditioned medium or ingredients equivalent to the conditioned medium, and in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF), thereby obtaining neural stem cells in a stem cell sphere (SCS).

8. (Previously Presented) The method for producing neural cells according to claim 4, comprising carrying out after the step (A), the step of:

(B') culturing the stem cell sphere (SCS) obtained in the step (A) in the state of adhesion of SCS to an adhesive culture substratum carrying a cell adhesion molecule in the absence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of an astrocyte conditioned medium or ingredients equivalent to the conditioned medium, thereby obtaining a neuron.

9. (Previously Presented) The method for producing neural cells according to claim 4, comprising carrying out after the step (A), the steps of:

(B) culturing the stem cell sphere (SCS) obtained in the step (A) in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of a cell adhesion molecule; and

(C) culturing the SCS obtained in the step (B) in the state of adhesion of SCS to an adhesive culture substratum carrying a cell adhesion molecule in the absence of bFGF and/or EGF, thereby obtaining glial cells as cells migrated from SCS.

10. (Previously Presented) A method for producing a neuron, comprising the step of culturing the neural stem cells obtained by the method according to claim 1 in a state of adhesion of the neural stem cell to an adhesive culture substratum carrying a cell adhesion molecule in the absence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF), and in the presence of the astrocyte conditioned medium or ingredients equivalent to the conditioned medium.

11. (Previously Presented) Isolated neural stem cells, which are differentiated from an embryonic stem cells by the method according to claim 1.

12. (Previously Presented) The neural stem cells according to claim 10, wherein the neural stem cells are cryopreserved.

13. (Previously Presented) An isolated neuron, which is obtained by the method of claim 8.

14. (Previously Presented) The isolated neuron according to claim 13, wherein the cell expresses at least one kind selected from the group consisting of class III β tubulin, neurofilament, tyrosine hydroxylase, glutamate decarboxylase and choline acetyltransferase.

15. (Previously Presented) An isolated glial cell, which is obtained by the method according to claim 9.

16. (Previously Presented) A cell pharmaceutical composition comprising, as an active ingredient, isolated neural stem cells which are differentiated from embryonic stem cells by the method according to claim 1.

17. (Previously Presented) A cell pharmaceutical composition comprising, as an active ingredient, an isolated neuron obtained by the method according to claim 8.

18. (Previously Presented) A cell pharmaceutical composition comprising, as an active ingredient, isolated glial cells obtained by the method according to claim 9.

19. (Cancelled)